

CASE STUDY REPORT #48
LOWER TWIN LAKE
ROBINSON CREEK

I. Project Description

Lower Twin Lake Dam was constructed in 1888 on Robinson Creek by S. H. Humwell, a local rancher. He constructed the dam to increase the natural lake's size and to control flows in Robinson Creek. The primary use of the water is for stock watering in the Bridgeport Valley approximately 10 miles downstream (Figure 1).

II. Pre-Project Condition

No record of streamflow conditions in Robinson Creek below Lower Twin Lake prior to the construction of the S. H. Humwell Dam was found.

Eldon Vestal (DFG, 1950) stated that Lower Twin Lake once supported "satisfactory numbers of wild cutthroat trout Salmo clarkii henshawii as well as numerous Rocky Mountain whitefish Coregonus williamsoni." The cutthroat trout mentioned by Vestal presumably originated from migratory runs into the Walker River drainage (see Lake Tahoe and Bridgeport Dam Case Studies #75 and #49).

Many factors may have been involved in the eventual collapse of the native cutthroat trout fishery at Twin Lakes. However, construction of the Bridgeport Dam in 1923 was probably the decisive element. No record of a fishery description prior to the construction of the S. H. Humwell Dam was found.

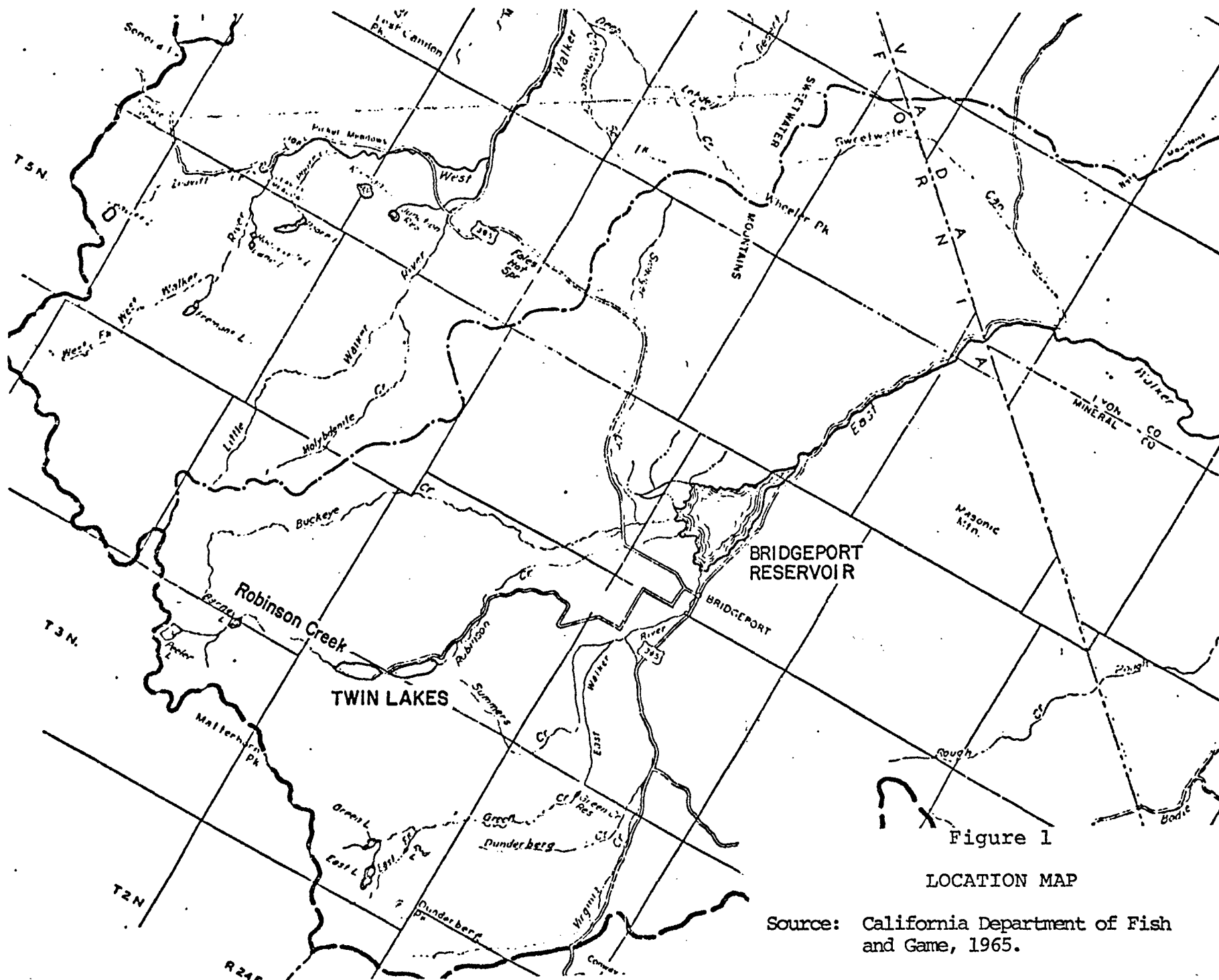


Figure 1

LOCATION MAP

Source: California Department of Fish and Game, 1965.

III. Project Development

No record of project developments leading up to the construction of the S. H. Humwell Dam was found. Records of that period either were not kept or are not available.

IV. Post-Project

Streamflow below S. H. Humwell Dam in Robinson Creek generally is above 10 cfs all year. The stream responds to annual spring runoff in the spring and early summer months (see Figure 2). There is no record of an agreement for an instream flow reservation. The dam is operated to meet the needs of the owner and downstream vested water rights.

Lower Twin Lake is located in Toiyabe National Forest. The U. S. Forest Service maintains a number of heavily frequented tent and trailer campsites along Robinson Creek. As a consequence fishing pressure is heavy.

The increasing recreational use of the area and the imminent loss of the natural cutthroat fishery precipitated the introduction of other game fish. Brown trout were released in Lower Twin Lake and Robinson Creek in 1925, and rainbow and eastern brook trout appeared shortly afterward. By the early 1930's catches of cutthroat trout were rare and the Twin Lakes and Robinson Creek contained a mixture of the three introduced species.

For a short period of time following World War II fishing pressure increased and management as catchable trout waters was more difficult. The quality of fishing began to deteriorate because

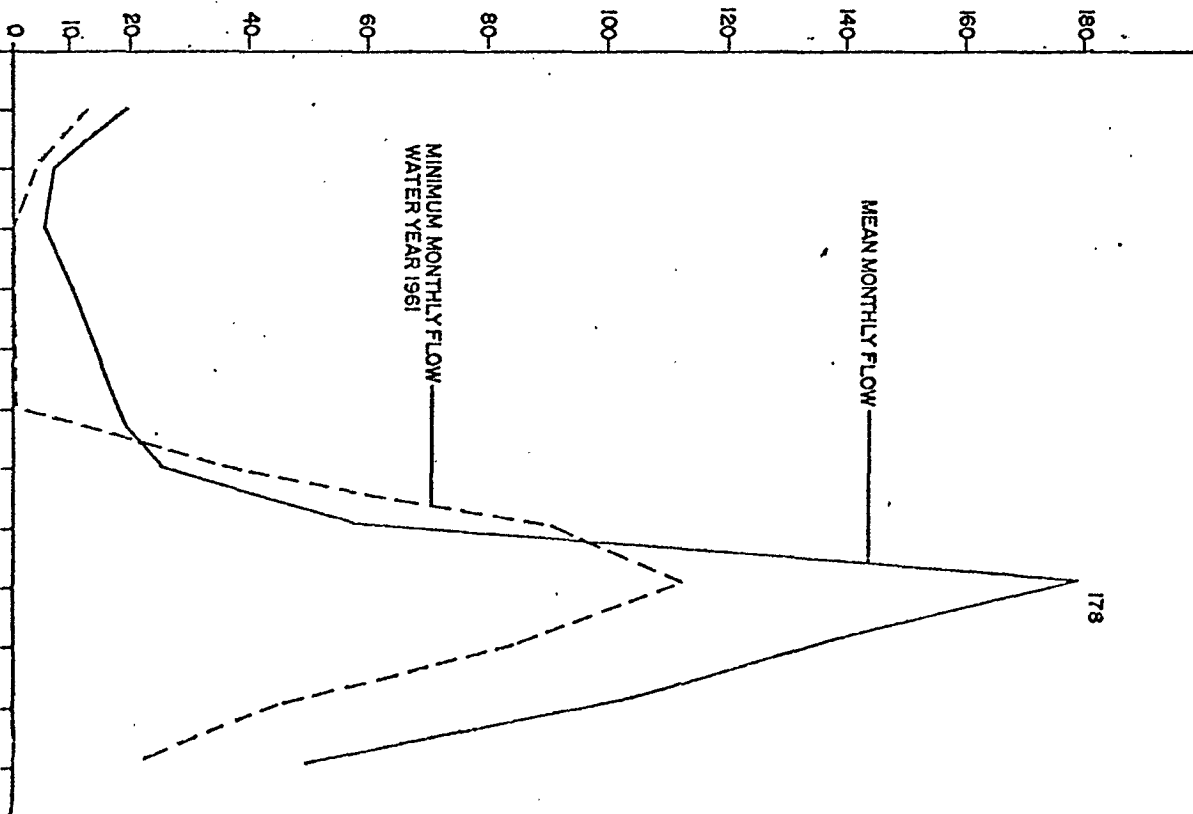
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEPT

PRE-PROJECT:
GAUGE STATION NO.
SOURCE:

NO DATA

FIGURE 2
STREAMFLOW CONDITIONS, ROBINSON CREEK
LOWER TWIN LAKE

STREAMFLOW (CFS)



POST-PROJECT: OCTOBER 1953 - SEPTEMBER 1973
GAUGE STATION NO. USGS 10290500
SOURCE: SURFACE WATER RECORDS VOL 2

of a serious rough fish problem. Enormous numbers of chubs and suckers presented serious competition to the rainbow trout and were a nuisance to the fishermen. Live bait users had apparently introduced the detrimental species while fishing for brown trout. It became necessary to chemically treat Upper and Lower Twin Lakes and Robinson Creek with rotenone in 1949 and 1950. California DFG then re-established the lakes as rainbow trout waters with post-treatment plantings of fingerlings. From 1952 through 1957 the CDFG released more than 768,000 catchable trout in Robinson Creek basin (CDFG, 1960).

Presently Robinson Creek is planted with catchable rainbow and brown trout once and sometimes twice a week during the summer months depending upon fishing pressure (Richardson, pers. comm.).

Stream flows are maintained in Robinson Creek to provide stock watering and irrigation. The family of the original owner, S. H. Humwell, operates a guest ranch downstream in the Bridgeport Valley; consequently, it is to their advantage to maintain instream flow and thus the fishery and the esthetics of the Robinson Creek drainage.

V. Conclusions

Records of instream flows in Robinson Creek prior to the construction of the dam on Lower Twin Lake are nonexistent. This dam was originally constructed to provide water for agricultural use in the Bridgeport Valley. The post-project hydrograph indicates that in normal water years the flow rarely goes below

5 cfs (see Figure 2) and in dry years the flows may reach zero cfs. There is no instream flow release agreement or requirement. However, it is in the best interest of the owner (S. H. Humwell) to maintain optimum flows for fish life as their business relies on quality fishing opportunities. The CDFG has evaluated the situation and has continued their trout planting program with the understanding that the operation of the Lower Twin Lakes Dam is not detrimental to fishlife.

BIBLIOGRAPHY

Personal Communications

- Eliason, Bruce E. 1975. California Department of Fish and Game.
Pister, Phillip. 1976. California Department of Fish and Game.
Richardson, William. 1976. California Department of Fish and Game.

References

- California. Department of Fish and Game. 1965. A progress report of the Twin Lakes Bridgeport kokanee salmon and catchable trout fishery. 40 pp.